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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,243	08/20/2003	Bryan Clark	3675P2275cipl	6046
23504	7590	08/25/2005	EXAMINER	
WEISS & MOY PC 4204 NORTH BROWN AVENUE SCOTTSDALE, AZ 85251			LEE, PATRICK J	
			ART UNIT	PAPER NUMBER
			2878	
DATE MAILED: 08/25/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/644,243	CLARK ET AL.	
	Examiner	Art Unit	
	Patrick J. Lee	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-17, 19 and 21-28 is/are rejected.
- 7) ☒ Claim(s) 5-7, 18 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0803</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the resonator as claimed in figure 11 must be shown or the feature(s) canceled from the claim(s). Figure 1 discloses the resonator itself, while figures 3-5 disclose a resonator disposed in a scanning system. However, in figures 3-5, the resonator is not shown to have multiple reflective surfaces with an imaging lens positioned in between as described in claim 11. In regards to claims 8-9, the plano-convex lens is shown in figure 2B, but there is no showing of the second reflective surface. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 8-17, 19, & 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,150,666 to Engelhardt et al.

With respect to claim 1, Engelhardt et al disclose a device for imaging the surface profile of an object comprising a multiple reflection plate (31) as an optical resonator with multiple reflective surfaces for sustaining multiple internal reflections (see figure 15). Although Englehardt et al do not explicitly disclose an imaging lens positioned in between the multiple reflective surfaces, such would have been obvious to

one of ordinary skill in the art because the lens would allow for additional focusing capabilities.

With respect to claims 2-4, the modified Englehardt et al does not explicitly disclose the focal length of the lens as such, but such would have been obvious to one of ordinary skill in the art because such an arrangement would prevent the reflection of multiple images should the second reflective surface be placed at a location besides the predetermined focal length.

With respect to claims 8-9, a plano-convex lens is not explicitly shown but such would have been obvious to one of ordinary skill in the art to modify the teachings of Englehardt et al accordingly because such would allow for the ability to focus specifically onto a single point.

With respect to claim 10, the use of a mask is not explicitly disclosed, but such would have been obvious to modify the teachings of Englehardt et al accordingly in order to avoid the potential for interference among light beams within the resonator with those outside.

With respect to claim 11, Engelhardt et al disclose a device for imaging the surface profile of an object comprising a multiple reflection plate (31) as an optical resonator with multiple reflective surfaces for sustaining multiple internal reflections (see figure 15). Englehardt et al also disclose the use of light source (3) as an illumination subsystem and detector (6) as a detection subsystem for detecting a beam reflected from surface (1). Although Englehardt et al do not explicitly disclose an imaging lens positioned in between the multiple reflective surfaces, such would have been obvious to

one of ordinary skill in the art because the lens would allow for additional focusing capabilities.

With respect to claim 12, the modified Englehardt et al do not explicitly disclose the device for use in an optical storage media, but such would have constituted obvious intended use as the arrangement of the detector and light source are conducive for such optical media applications.

With respect to claim 13, the modified Englehardt et al discloses the surface (1) being under inspection.

With respect to claim 14, the modified Englehardt et al do not explicitly disclose the mechanical movement of the resonator or the surface, but such would be obvious to one of ordinary skill in the art in order to give the device zoom capability and to image as much of the surface as possible.

With respect to claims 15-17, the modified Englehardt et al does not explicitly disclose the focal length of the lens as such, but such would have been obvious to one of ordinary skill in the art because such an arrangement would prevent the reflection of multiple images should the second reflective surface be placed at a location besides the predetermined focal length.

With respect to claim 19, the modified Englehardt et al disclose lens (29) as a lens positioned between said imaging lens and first reflective surface for focusing an image of points within the second region of the second reflective surface on corresponding unique points.

With respect to claim 21, a plano-convex lens is not explicitly shown but such would have been obvious to one of ordinary skill in the art to modify the teachings of Englehardt et al accordingly because such would allow for the ability to focus specifically onto a single point.

With respect to claim 22, the use of a mask is not explicitly disclosed, but such would have been obvious to modify the teachings of Englehardt et al accordingly in order to avoid the potential for interference among light beams within the resonator with those outside.

With respect to claim 23, Englehardt et al disclose a device for imaging the surface profile of an object comprising a multiple reflection plate (31) as an optical resonator with multiple reflective surfaces for the method step of reflecting light between multiple parallel reflective surfaces to provide multiple internal reflections (see figure 15). Englehardt et al disclose the step of imaging of a first reflective surface onto a second reflective surface. Although Englehardt et al do not explicitly disclose an imaging lens positioned in between the multiple reflective surfaces, such would have been obvious to one of ordinary skill in the art because the lens would allow for additional focusing capabilities.

With respect to claim 24, the modified Englehardt et al disclose a light source (3) for scanning the surface (1) and detector (6) for detecting light emitted from surface (1).

With respect to claims 25-27, the modified Englehardt et al does not explicitly disclose the focal length of the lens as such, but such would have been obvious to one of ordinary skill in the art because such an arrangement would prevent the reflection of

multiple images should the second reflective surface be placed at a location besides the predetermined focal length.

With respect to claim 28, the use of a mask is not explicitly disclosed, but such would have been obvious to modify the teachings of Englehardt et al accordingly in order to avoid the potential for interference among light beams within the resonator with those outside.

Allowable Subject Matter

5. Claims 5-7, 18, & 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 5, 7, 18, & 20, the prior art of record does not disclose the corresponding points of a region displaced from second region to be a multiple of one-half of a predetermined optical wavelength.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,847,029 B2 to Hill disclose a detector array utilizing resonant cavities.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (571) 272-

Art Unit: 2878


2440. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J. Lee
Examiner
Art Unit 2878

PJL
August 17th, 2005



Stephone B. Allen
Primary Examiner